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PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1970

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SUMMARY

(All Figures are in Inches)

AVERAGE PRECIPITATION

Above Chattanooga	(51.11)	45.98
Below Chattanooga	(52.10)	50.65
Entire Basin	(51.58)	48.13

MOST RAIN

Coweeta No. 31, N. C.	(92.38)	88.01
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LEAST RAIN

Marshall, N. C.	(39.52)	27.85
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HIGHEST 24-HOUR RAIN

Rosman, N. C.		10.89
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NATURAL STREAMFLOW

Above Knoxville	(19.35)	14.47
Above Chattanooga	(23.43)	18.52

Number in parentheses is long-term mean.

TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING
HYDRAULIC DATA BRANCH

PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1970

CONTENTS

	<u>Page</u>
Isohyetal Map 1970 Annual Precipitation	Frontispiece
Precipitation	1
Snow	2
Streamflow	3
Evaporation	3
Drought	3
Temperatures	3
Intense Rainfall	4
Monthly Reports	4
Special Reports	4
Map of Average Precipitation on Watershed Subdivisions	11
Rainfall and Runoff in Tennessee River Basin—Chart	12
Index Map to Rainfall Stations, follows page 15	

TABLES

1970 Annual Precipitation at Ten Wettest and Ten Driest Stations	2
Annual Natural Streamflow in Inches	3
Annual Maximum Rainfall Intensities, 1936–1970	5
Tennessee River Basin Precipitation During 1970	6
Precipitation Statistics for Selected Stations	6
Average Precipitation on Watershed Subdivisions	10
Monthly and Annual Rainfall and Runoff Above Chattanooga	13
Rainfall and Runoff for Selected Watersheds	14
Evaporation Data	15
Monthly and Annual Precipitation	21

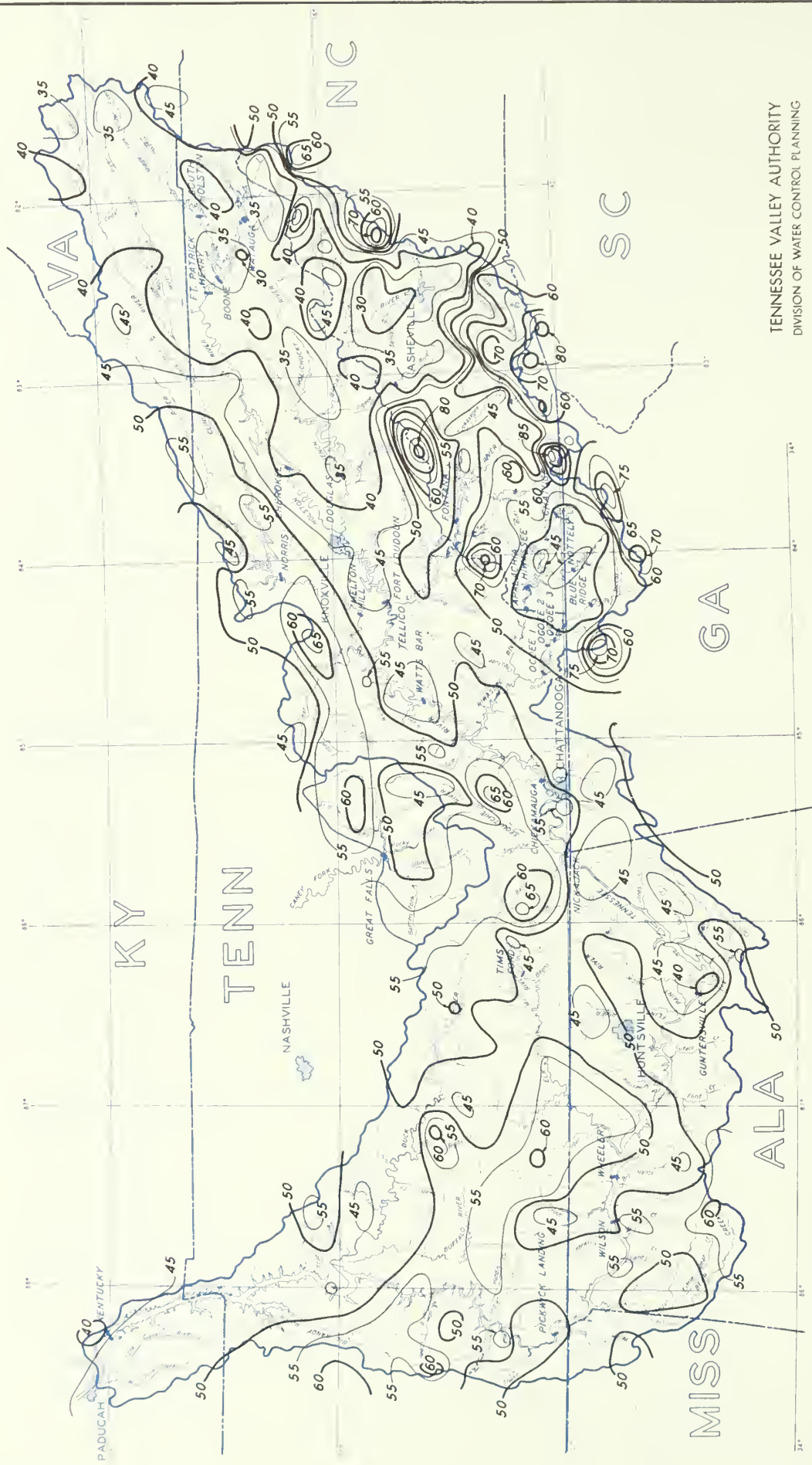
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ANNUAL 1970

PRECIPITATION
IN
TENNESSEE RIVER BASIN

REPORT NO. O-243





- SYMBOLS:**
- Rainfall in Inches
 - State Lines
 - Dams

TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

**TENNESSEE RIVER BASIN
PRECIPITATION - YEAR 1970**

SCALE 0 10 20 30 40 50 MILES

PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1970

Precipitation

The year 1970 ranks as the twenty-fourth driest in 81 years of record. Precipitation over the Basin averaged 48.13 inches, 3.45 inches less than the 75-year (1890-1964) mean. Average annual precipitation has ranged from 37.86 in 1941 to 64.62 inches in 1957. Average precipitation above and below Chattanooga were 5.13 inches and 1.45 inches less than the long-term mean, respectively. These amounts are listed in the summary on the cover of this report. The frontispiece map shows the 1970 annual distribution of precipitation over the Basin.

The index map following page 15 shows the station locations, and Tables 1 through 10 on pages 21 to 59 show precipitation for stations listed in upstream order.

Monthly precipitation in the Basin was below the 75-year mean during seven months of the year with April, June, August, September, and October exceeding the mean. The driest month was November with 2.30 inches and the wettest was April with 7.43 inches. The table on page 6 shows monthly and annual precipitation data with means and deviations for the Basin.

The U. S. Forest Service station at Coweeta No. 31, North Carolina, located in the upper Little Tennessee River watershed in the mountainous southeastern section of the Basin, received the maximum annual precipitation during 1970 amounting to 88.01 inches; however, this is 4.37 inches below the 35-year (1935-1969) mean. This was the fifth consecutive year that this station has received the maximum annual amount. The maximum monthly precipitation during the year was 20.19 inches in October at Rosman, North Carolina, followed by Hendersonville, North Carolina, with 15.09 inches in August, Kimbrough Cemetery, Alabama, with 14.09 inches in April, and Palestine, Tennessee, with 14.09 inches in June. Lake Toxaway, North Carolina, just outside the Basin, had an annual amount of 84.16 inches. The greatest station precipitation in a 24-hour period during the year was 10.89 inches on October 10-11 at Rosman, North Carolina.

The minimum annual precipitation for 1970 in the Basin was 27.85 inches at Marshall, North Carolina, located in French Broad River basin about 20 miles northwest of Asheville. This amount is 11.67 inches below the 35-year (1935-1969) mean. The minimum monthly station precipitation was 0.20 inch in May at College Junction, Tennessee, in the Sequatchie River watershed about 40 miles northeast of Nickajack Dam. Other monthly low totals were Glens, Mississippi, with 0.22 inch in August, Stinson Gap, Alabama, with 0.39 inch in September, Collinwood, Tennessee, with 0.58 inch in July, and Wildersville, Tennessee, with 0.71 inch in January.

The ten highest and lowest amounts for 1970 in the Tennessee River Basin are listed in the following table:

1970 ANNUAL PRECIPITATION
AT 10 WETTEST AND 10 DRIEST STATIONS
IN THE TENNESSEE RIVER BASIN

<u>Highest Amounts</u>		<u>Lowest Amounts</u>	
<u>Station</u>	<u>1970 Annual Precipitation inches</u>	<u>Station</u>	<u>1970 Annual Precipitation inches</u>
Coweeta No. 31, N. C.	88.01	Marshall, N. C.	27.85
Sassafras Mountain, S. C.	81.55	Barnardsville, N. C.	28.92
Newfound Gap, N. C.	81.36	Parker Branch, N. C.	29.02
Tray Mountain, Ga.	79.21	Ivy, N. C.	29.06
Flat Top, Ga.	78.62	Asheville, N. C. (TVA)	29.32
Mt. Mitchell, N. C.	74.99	Johnson City, Tenn.	29.40
Haywood Gap, N. C.	74.76	Weaverville, N. C.	30.08
Mt. Le Conte, Tenn.	73.68	Waynesville Watershed No. 5, N. C.	30.35
Haw Knob (Stratton Gap), N. C.	72.69	Nolichucky Dam, Tenn.	30.41
Suches, Ga.	71.71	A and H Airport, N. C.	30.70

Precipitation statistics for selected stations throughout the Basin are shown on pages 6 to 9.

Among the watershed subdivisions the maximum annual average for 1970 was 65.8 inches over the French Broad River area above Blantyre, North Carolina, 7.8 inches less than the 35-year mean of 73.6 inches. The minimum annual average was 35.4 inches, 9.1 inches less than the 35-year mean of 44.4 inches, over the South Fork of Holston River area from Kingsport, Tennessee, to South Holston and Watauga Dams.

Precipitation and runoff for the year on 14 selected watersheds are shown on page 14. Other tabulations and charts on pages 12 and 13 show selected data on precipitation and runoff.

Snow

The average snowfall over the Basin during the year was 10.6 inches, with 57 percent occurring in January, 21 percent in February, 4 percent in March, 3 percent in November, and 15 percent in December. East of Chattanooga, the average snowfall was 15.0 inches; west of Chattanooga, it was 5.9 inches. The maximum for the Basin, 50.6 inches, occurred at McKinney Gap, North Carolina, in the Nolichucky River watershed. Banner Elk, North Carolina, in the upper Holston River watershed had 44.3 inches. In the western section of the Basin, the maximum snowfall was 15.3 inches at Pikeville, Tennessee, in the Sequatchie River basin about 46 miles northeast of Nickajack Dam. In the Caney Fork area above Great Falls Dam, the average snowfall was 11.6 inches with a maximum of 20.8 inches at Monterey, Tennessee.

Streamflow

Streamflow in the Basin above Chattanooga was below normal for ten months in 1970, with April and October being above normal.

Flows from the watersheds above Chattanooga and Knoxville are shown on the cover and in the following table:

ANNUAL NATURAL STREAMFLOW IN INCHES-1970

	<u>Water Year</u>		<u>Calendar Year</u>	
	<u>1970</u>	<u>Mean</u>	<u>1970</u>	<u>Mean</u>
Tennessee River at				
Knoxville	15.02	19.35	14.47	19.35
Chattanooga	19.01	23.42	18.52	23.43

Other tabulations and charts on pages 12, 13, and 14 show selected runoff data.

Evaporation

Data observed at the five TVA evaporation stations are shown in the table on page 15.

Drought

Drought conditions occurred in parts of the Basin in May, July, and September.

Temperatures

Air temperatures over the Basin averaged below normal during seven months of the year and averaged in a range of normal to about three degrees above normal for April, May, September, October, and December. For the year, the average was about one degree below normal. January was the coldest month in the Basin during the year with a minimum of minus 20 degrees recorded at Mountain City, Tennessee, on the 22nd. This was the coldest January since 1940 averaging about 9 degrees below normal over the Basin. A new low for January 8, minus one degree, was recorded at Asheville, North Carolina. Record low temperatures for February 4, 2 and 7 degrees, respectively, were established at Oak Ridge, Tennessee, and Huntsville Airport, Alabama.

The two warmest months during 1970 in the Basin were July and August, both of which were slightly below normal. A record high for any April, 91 degrees, was established at Oak Ridge, Tennessee.

Intense Rainfall

Maximum rainfall intensities for periods of 1, 3, 6, 12, and 24 hours for the years 1936-1970 are shown in a table on page 5.

Monthly Reports

Monthly issues of the bulletin "Precipitation in Tennessee River Basin" contain tabulations of daily precipitation at stations located in or near the Basin together with isohyetal maps of monthly precipitation, maps showing mean monthly precipitation on watershed subdivisions, descriptions of storms, tabulations of rainfall and runoff on selected watersheds, intense rainfall data, and other information.

Special Reports

Reports on special storm investigations were published in monthly issues of this publication during 1970. These reports and the date of the issue in which they appear are as follows:

	<u>Monthly Bulletin Containing Report</u>
Effects of the Extreme Cold and Snowfall in the Tennessee River Basin	January
Ice Jams in Western North Carolina	January
Flood of April 28, 1970, on the North Fork Clinch River in the Vicinity of Duffield, Virginia	April
Flood of April 28, 1970, on Stock Creek in Vicinity of Clinchport, Virginia	April
Air Pollution Alert	July
Storm and Flood of August 10, 1970, at Oak Ridge, Oliver Springs, and Petros, Tennessee	August
Storm and Floods of October 10-12, 1970, Over the Upper French Broad River Basin	October
Storm of October 29-30, 1970, in Upper French Broad River Basin	October

ANNUAL MAXIMUM RAINFALL INTENSITIES

IN TENNESSEE RIVER BASIN

1936-1970

Each tabular value shows maximum rainfall in inches occurring within the time period shown at head of the column. The number in parentheses is the station where this occurred.

Year	Inches for				
	1 Hour	3 Hours	6 Hours	12 Hours	24 Hours
1936	3.00 (34)	4.79 (60)	5.62 (60)	6.90 (60)	8.85 (60)
1937	2.64 (90)	3.70 (29)	4.40 (70)	6.16 (283)	7.68 (283)
1938	2.61 (179)	3.77 (101)	6.78 (179)	7.91 (179)	9.10 (179)
1939	3.52 (207)	6.81 (24)	6.81 (24)	6.81 (24)	8.57 (397)
1940	3.08 (142)	4.00 (190)	6.12 (190)	9.02 (190)	11.60 (115)
1941	3.65 (391)	3.87 (470)	3.98 (42)	4.00 (50)	5.23 (563)
1942	2.95 (520B)	4.80 (419)	4.80 (419)	5.79 (283)	9.53 (285)
1943	3.19 (275)	4.36 (275)	4.75 (58)	4.88 (275)	6.70 (566)
1944	4.88 (505)	8.06 (505)	8.16 (505)	8.21 (505)	8.36 (505)
1945	2.45 (503)	4.03 (605)	4.43 (521)	6.24 (154)	7.65 (154)
1946	2.89 (651)	3.92 (403)	5.30 (403)	6.53 (505)	7.57 (384)
1947	2.41 (101)	5.82 (538)	5.82 (538)	5.82 (538)	5.82 (538)
1948	2.70 (283)	4.00 (15)	4.41 (446)	5.73 (191)	7.30 (509)
1949	3.55 (679)	4.57 (488)	5.72 (254)	7.67 (254)	9.94 (233A)
1950	2.60 (327)	3.53 (69)	4.63 (233A)	6.23 (233A)	9.20 (233A)
1951	4.00 (210)	4.80 (407)	4.80 (407)	6.25 (109)	7.34 (111)
1952	3.83 (575)	4.85 (575)	5.70 (575)	6.76 (575)	7.54 (115)
1953	3.10 (691)	4.65 (153)	4.65 (153)	4.93 (233A)	6.90 (200C)
1954	3.58 (154)	4.29 (438)	5.52 (438)	8.87 (393)	8.87 (393)
1955	3.18 (704A)	3.72 (255)	4.61 (154)	6.25 (233A)	8.56 (462A)
1956	3.00 (381)	4.73 (682)	4.73 (682)	4.73 (682)	7.53 (17A)
1957	3.51 (385)	3.75 (738)	4.70 (268)	5.05 (190)	7.60 (190)
1958	3.00 (135)	3.97 (522)	5.49 (135)	5.49 (135)	6.51 (109)
1959	3.50 (506)	6.34 (506)	6.34 (506)	6.34 (506)	8.7 (742)
1960	3.43 (711)	7.34 (711)	7.45 (711)	7.45 (711)	7.45 (711)
1961	2.58 (624)	3.50 (249)	3.66 (575)	5.63 (286)	10.19 (279A)
1962	3.52 (75)	4.54 (276B)	4.54 (276B)	5.30 (277)	7.43 (191)
1963	3.45 (762C)	6.95 (382A)	6.95 (382A)	7.27 (581)	7.57 (762A)
1964	2.44 (788)	3.50 (462)	4.55 (201A)	6.10 (280)	13.10 (286)
1965	3.10 (228)	5.65 (169)	5.65 (169)	5.65 (169)	11.52 (190)
1966	3.80 (662)	5.05 (662)	5.75 (662)	5.78 (662)	8.47 (283)
1967	3.33 (816)	4.65 (111)	6.40 (115)	6.40 (115)	12.14 (135)
1968	5.50 (F1)	8.80 (F1)	11.13 (F1)	11.13 (F1)	11.13 (F1)
1969	2.90 (813)	6.17 (800)	6.92 (800)	6.99 (800)	7.05 (800)
1970	4.50 (B17)	7.60 (286B)	9.39 (286B)	9.80 (286B)	10.89 (286)

TENNESSEE RIVER BASIN PRECIPITATION DURING 1970

Precipitation in Inches

<u>Month</u>	<u>Above Chattanooga 1970</u>	<u>Below Chattanooga 1970</u>	<u>Tennessee River Basin</u>			
			<u>1970</u>	<u>75-Yr Mean</u>	<u>Deviation from Mean Monthly</u>	<u>Cumulative</u>
January	2.77	2.00	2.41	4.88	-2.47	-2.47
February	3.24	3.57	3.39	4.84	-1.45	-3.92
March	3.50	5.59	4.47	5.61	-1.14	-5.06
April	6.45	8.56	7.43	4.48	+2.95	-2.11
May	2.14	3.16	2.61	4.08	-1.47	-3.58
June	4.75	5.34	5.02	4.24	+0.78	-2.80
July	3.57	2.84	3.23	4.91	-1.68	-4.48
August	5.05	3.38	4.27	4.17	+0.10	-4.38
September	3.32	3.52	3.41	3.20	+0.21	-4.17
October	5.20	5.98	5.56	2.84	+2.72	-1.45
November	2.27	2.33	2.30	3.57	-1.27	-2.72
December	3.72	4.38	4.03	4.76	-0.73	-3.45
Total	45.98	50.65	48.13	51.58		

Mean precipitation figures are for the period 1890-1964.

PRECIPITATION STATISTICS FOR SELECTED STATIONS

Precipitation in Inches

<u>Month</u>	<u>Long-Term</u>	<u>Maximum of Record</u>		<u>Minimum of Record</u>		<u>Year</u> 1970
	<u>Mean</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>	<u>Year</u>	
<u>ELIZABETHTON, TENNESSEE (79 Years)</u>						
January	3.39	8.13	1947	0.46	1896	1.90
February	3.41	7.59	1944	0.46	1968	3.13
March	4.15	10.72	1899	1.37	1937	2.31
April	3.42	6.05	1912	0.65	1942	4.62
May	3.94	7.73	1915	1.08	1941	2.01
June	4.55	16.38	1872	1.33	1946	1.83
July	5.12	10.56	1896	1.10	1872	3.17
August	4.33	12.14	1901	0.89	1896	5.95
September	2.89	7.61	1928	0.30	1903	3.08
October	2.55	7.61	1918	0.02	1904	2.86
November	2.41	5.02	1948	0.61	1931	2.09
December	3.30	9.87	1872	0.30	1965	2.51
Annual	43.46	58.91	1928	29.06	1941	35.46

PRECIPITATION STATISTICS FOR SELECTED STATIONS (Continued)Precipitation in Inches

<u>Month</u>	<u>Long-Term</u>	<u>Maximum of Record</u>		<u>Minimum of Record</u>		<u>Year</u> 1970
	<u>Mean</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>	<u>Year</u>	
<u>MURPHY, NORTH CAROLINA (96 Years)</u>						
January	5.51	14.85	1882	1.75	1907	2.96
February	5.67	15.10	1873	0.56	1906	2.89
March	6.20	15.34	1917	1.62	1967	3.19
April	4.84	15.40	1874	0.30	1915	4.37
May	3.99	11.25	1929	0.46	1941	1.99
June	4.90	9.31	1884	0.94	1964	6.03
July	5.65	13.42	1950	0.89	1957	5.12
August	4.97	13.96	1920	0.95	1953	2.89
September	3.32	8.04	1962	0.20	1876	2.10
October	3.06	9.27	1949	0.00	1963	5.10
November	3.80	13.18	1948	0.51	1924	2.04
December	5.16	12.98	1932	0.48	1965	2.93
Annual	57.07	84.80	1875	40.00	1940	41.61

CHATTANOOGA, TENNESSEE (92 Years)

January	5.20	14.74	1882	1.13	1961	2.45
February	5.01	12.30	1939	0.62	1941	1.80
March	5.82	14.05	1899	0.93	1910	4.08
April	4.69	15.29	1911	0.44	1942	7.36
May	3.82	12.00	1929	0.54	1941	2.76
June	4.00	9.40	1949	0.29	1931	4.69
July	4.63	13.49	1916	0.20	1957	3.88
August	3.76	12.36	1920	0.45	1929	2.92
September	3.16	12.19	1957	0.04	1919	2.92
October	2.99	11.91	1925	0.08	1938	5.56
November	3.60	13.59	1948	0.16	1890	2.03
December	5.09	13.68	1961	0.44	1889	4.30
Annual	51.77	72.37	1929	32.68	1904	44.75

LEWISBURG, TENNESSEE (77 Years)

January	5.11	17.05	1950	1.26	1943	1.99
February	5.06	13.14	1939	1.08	1941	3.56
March	5.85	12.50	1902	0.94	1910	4.37
April	4.65	12.60	1912	0.56	1915	7.96
May	4.20	12.01	1967	0.60	1941	5.59
June	3.97	13.46	1900	0.72	1899	4.58
July	4.50	9.85	1941	0.84	1954	2.87
August	3.94	11.40	1923	0.57	1909	2.11
September	3.15	12.41	1957	0.32	1927	2.81
October	2.94	8.88	1919	T	1963	5.61
November	3.75	10.27	1948	0.46	1953	1.97
December	4.82	11.71	1922	0.77	1958	3.59
Annual	51.94	66.62	1950	37.42	1904	47.51

PRECIPITATION STATISTICS FOR SELECTED STATIONS (Continued)

Precipitation in Inches

<u>Month</u>	<u>Long-Term Mean</u>	<u>Maximum of Record Amount</u>	<u>Year</u>	<u>Minimum of Record Amount</u>	<u>Year</u>	<u>Year 1970</u>
<u>MUSCLE SHOALS, ALABAMA* (87 Years)</u>						
January	5.05	13.09	1950	1.20	1961	3.19
February	5.00	13.64	1948	0.54	1941	3.43
March	5.76	16.15	1897	1.26	1910	6.02
April	4.66	16.07	1892	0.74	1930	11.74
May	3.99	11.29	1939	0.16	1941	6.31
June	3.97	13.87	1900	0.60	1897	3.13
July	4.46	14.60	1916	0.77	1935	2.27
August	3.75	10.60	1894	0.35	1948	3.44
September	3.00	7.87	1890	0.00	1897	4.37
October	2.63	11.05	1918	0.00+	1963	6.00
November	3.47	11.39	1948	0.16	1949	2.07
December	4.98	14.59	1926	0.83	1958	4.79
Annual	50.72	76.21	1932	30.92	1943	56.76

*Before December 1940 this station was at Florence, Alabama.

+Also minimum for 1924.

JOHNSONVILLE STEAM PLANT, TENNESSEE* (87 Years)

January	5.24	23.51	1937	0.44	1963	0.98
February	4.28	9.56	1939	0.73	1968	3.80
March	5.22	13.07	1927	0.59	1910	3.73
April	4.61	12.29	1892	0.53	1887	6.71
May	4.27	10.19	1909	0.48	1951	2.67
June	3.99	13.34	1928	0.37	1930	7.83
July	4.01	10.12	1892	0.06	1890	0.81
August	3.73	13.70	1914	0.34	1948	2.60
September	3.34	11.31	1921	0.00	1897	2.51
October	2.78	11.44	1919	0.00	1963	6.18
November	4.07	11.90	1906	0.74	1949	1.61
December	4.58	14.66	1926	0.05	1889	5.05
Annual	50.12	76.17	1950	32.48	1960	44.48

*Before August 1949 records collected at Johnsonville have been used.

PRECIPITATION STATISTICS FOR SELECTED STATIONS (Continued)Precipitation in Inches

<u>Month</u>	<u>Long-Term Mean</u>	<u>Maximum of Record Amount</u>	<u>Year</u>	<u>Minimum of Record Amount</u>	<u>Year</u>	<u>Year 1970</u>
<u>HENDERSONVILLE, NORTH CAROLINA (74 Years)</u>						
January	4.56	12.40	1906	0.39	1907	2.15
February	4.65	10.73	1891	0.54	1930	2.99
March	5.37	11.67*	1952	0.96	1930	3.58
April	4.35	9.38	1920	0.43	1915	3.31
May	4.35	12.70	1942	0.95	1914	2.79
June	5.22	11.56	1934	0.96	1911	3.25
July	6.00	22.09	1916	1.72	1957	3.70
August	6.11	26.58	1901	0.49	1925	5.28
September	4.38	14.00	1906	0.22	1919	0.57
October	4.22	14.59	1918	0.01	1904	9.07
November	3.36	12.54	1948	0.21	1910	2.14
December	4.97	12.85	1918	0.23	1965	2.97
Annual	57.54	92.60	1901	32.55	1925	41.80

*Also maximum for March 1891.

KNOXVILLE, TENNESSEE (100 Years)

January	4.61	16.98	1882	1.29	1907	2.91
February	4.68	12.52	1873	0.56	1898	3.53
March	5.11	13.35	1917	0.72	1910	3.21
April	4.23	17.32	1874	0.70	1942	7.13
May	3.70	8.81	1938	0.71	1941	0.88
June	4.14	11.83	1928	1.39	1936	6.35
July	4.57	13.16	1917	0.69	1901	1.58
August	3.89	11.33	1920	1.10	1953	8.71
September	2.84	10.78	1944	0.18	1961	2.64
October	2.57	9.51	1925	0.00	1963	4.20
November	3.38	11.69	1948	0.17	1890	1.52
December	4.35	12.34	1901	0.47	1965	3.85
Annual	48.07	73.87	1875	33.67	1930	46.51

AVERAGE PRECIPITATION ON WATERSHED SUBDIVISIONS

1970 MONTHLY AND ANNUAL

Subdivision	Average Precipitation - Inches											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Entire Tennessee River Basin	2.41	3.39	4.47	7.43	2.61	5.02	3.23	4.27	3.41	5.56	2.30	4.03
35-Yr Average	5.25	5.10	5.52	4.46	3.96	3.91	4.94	3.95	3.21	2.69	3.90	4.59
Area Above Chattanooga	2.77	3.24	3.50	6.45	2.14	4.75	3.57	5.05	3.32	5.20	2.27	3.72
35-Yr Average	4.89	4.88	5.31	4.21	3.85	4.10	5.39	4.30	3.27	2.82	3.66	4.35
Area Below Chattanooga	2.00	3.57	5.59	8.56	3.16	5.34	2.84	3.38	3.52	5.98	2.33	4.38
35-Yr Average	5.66	5.36	5.75	4.74	4.07	3.68	4.43	3.55	3.15	2.55	4.18	4.87
French Broad Above Newport	2.22	2.90	2.96	4.21	2.90	3.64	4.75	4.67	2.45	6.40	2.39	2.92
35-Yr Average	4.25	4.37	5.12	4.17	3.83	4.55	5.71	5.32	3.76	3.43	3.42	3.86
French Broad Above Douglas Dam	2.33	2.95	2.82	5.14	2.60	3.61	4.24	4.49	2.91	4.98	2.35	3.04
35-Yr Average	4.24	4.33	5.00	3.98	3.74	4.26	5.53	4.75	3.44	3.10	3.33	3.74
Holston Above Cherokee Dam	2.61	2.98	2.41	6.03	1.74	3.06	3.28	5.10	2.86	3.02	2.32	3.06
35-Yr Average	3.93	3.91	4.39	3.57	3.79	3.77	5.19	4.02	2.93	2.48	3.03	3.44
Holston and French Broad Above Knoxville	2.49	3.00	2.73	5.60	2.24	3.45	3.72	4.81	2.96	4.27	2.33	3.13
35-Yr Average	4.18	4.23	4.78	3.82	3.77	4.05	5.38	4.39	3.19	2.81	3.25	3.67
Little Tennessee Above McChes	3.13	3.66	4.36	6.23	2.67	6.50	4.34	4.52	3.95	6.39	2.68	4.73
35-Yr Average	5.96	5.97	6.41	4.96	4.19	4.67	5.97	5.06	3.64	3.29	4.29	5.20
Little Tennessee Above Fontana Dam	3.04	3.66	4.38	5.52	3.08	6.92	4.74	4.35	3.95	6.47	2.81	4.51
35-Yr Average	6.00	6.07	6.51	5.03	4.15	4.69	5.99	5.21	3.86	3.45	4.23	5.31
Clinch Above Norris Dam	2.71	3.77	3.04	6.76	1.95	4.29	2.59	6.43	3.97	3.90	2.47	3.63
35-Yr Average	4.44	4.30	4.85	3.67	3.81	3.96	5.22	3.94	2.85	2.40	3.34	3.91
Hiwassee Above Charleston	3.24	3.11	4.53	5.84	2.34	7.10	4.43	4.39	2.72	7.11	2.29	3.66
35-Yr Average	5.78	5.84	6.18	5.09	4.06	4.35	5.72	4.69	3.53	3.08	4.15	5.12
Hiwassee Above Hiwassee Dam	3.25	3.22	4.39	4.90	2.86	7.55	5.44	4.20	2.66	6.44	2.50	3.43
35-Yr Average	5.79	5.92	6.26	5.24	4.14	4.60	6.03	4.97	3.67	3.20	4.06	5.12

Note: 35-Year Averages Based on 1935-1969 Averages.



TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

AVERAGE PRECIPITATION ON WATERSHED SUBDIVISIONS

YEAR 1970



Black Numbers Indicate Average
Precipitation in Inches

AREA NO.	AREA	AREA NO.	AREA	AREA NO.	AREA
1	Tennessee - New Johnsonville to Mouth	72A	Little Tennessee - Bryson, Needmore and Nantahala to Fontana Dam	101	Pigeon - Canton to Harford
4	Tennessee - Pickwick to New Johnsonville	73	Tuckasee - Dillsboro to Bryson	105	Pigeon - Canton
7	Duck - Columbia to Mouth	74	Tuckasee - Above Dillsboro	106	French Broad - Asheville to Newport
10	Duck - Above Columbia	75	Little Tennessee - Above Needmore	110	French Broad - Bent Creek to Asheville
13	Buffalo - Above Loblerville	78	French Broad - Above Nantahala	114	French Broad - Blantyre to Bent Creek
18	Tennessee - Florence to Pickwick	84	French Broad - Holston - Douglas and Cherokee to Knoxville	117	French Broad - Above Blantyre
19	Teal Creek - Above Bishop	87	Holston - Gate City and Kingsport to Cherokee Dam	120	Nolichucky - Embreyville to Above Morristown
21	Shoal Creek - Above Iron City	88	North Fork of Holston - Above Gate City	121	Nolichucky - Above Embreyville
22	Elk - Fayetteville to Prospect	89	South Fork of Holston - South Holston Dam and North Fork of Holston - Above Gate City	125	Caney Fork - Above Great Falls Dam
23	Elk - Above Fayetteville	92	Watauga Dam to Kingsport		
26	Tennessee - Guntersville to Decatur	93	South Fork of Holston - Above South Holston Dam		
27	Flint - Above Chase	99	Watauga - Above Watauga Dam		
28	Paint Rock - Above Woodville		French Broad - Harford, Newport and Bent Creek		
30	Sequatchie - Above Whirlwell				
33	Tennessee - Above Whirlwell				
34	Tennessee - Above Whirlwell to Nickajack				
39	Tennessee - Watts Bar to Nickajack				
40	Hwassee - Reliance and Ocoee No. 1 to Charleston				
41	Ocoee - Blue Ridge to Ocoee No. 1				
46	Toccoa - Above Blue Ridge				
48	Hwassee - Hwassee Dam to Reliance				
49	Hwassee - Murphy, Nolichucky Dam and Tomolta to Hwassee Dam				
52	Nittely - Above Nittely Dam				
53A	Hwassee - Chaluge Dam to Murphy				
54	Hwassee - Above Chituga Dam				
55	Watauga - Above Watauga Dam				
57	Tennessee and Clinch - Fort Loudoun to Watts Bar and Kingston to Norris Dam				
59	Emory - Above Oakdale				
62	Clinch - Arthur and Tazewell to Norris				
63	Powell - Above Arthur				
65	Clinch - Above Tazewell				
67	Tennessee - Knoxville to Fort Loudoun				
69	Little Tennessee - Calderwood to McChes				
70	Little Tennessee - Fontana and Santeehah to Calderwood				
71	Cheah - Above Santeehah				



RAINFALL AND RUNOFF
IN THE
TENNESSEE RIVER BASIN

MONTHLY AND ANNUAL RAINFALL AND RUNOFF

TENNESSEE RIVER ABOVE CHATTANOOGA, TENNESSEE

Drainage Area - 21,400 Square Miles

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Annual</u>
	<u>Rainfall in Inches, 1890 - 1970</u>												
1970	2.77	3.24	3.50	6.45	2.14	4.75	3.57	5.05	3.32	5.20	2.27	3.72	45.98
Maximum	10.32	9.69	11.40	7.49	7.95	8.67	11.07	13.33	7.69	8.37	10.30	9.98	64.09
Minimum	1.42	0.85	1.37	0.95	0.80	1.73	2.02	1.25	0.77	0.04	0.44	0.54	37.23
Mean ^a	4.57	4.71	5.38	4.20	4.04	4.45	5.27	4.50	3.26	2.90	3.28	4.55	51.11
Median ^a	4.23	4.47	5.15	4.15	3.80	4.49	5.07	4.15	3.21	2.48	3.13	4.20	51.94

a. For Period 1890-1964

Runoff in Inches, 1874 - 1970
(Unregulated)

1970	2.44	2.49	1.95	3.72	1.42	1.09	0.59	0.85	0.54	0.90	1.01	1.52	18.52
Maximum	9.42	7.45	9.62	7.11	5.28	3.75	3.90	4.28	2.69	3.17	3.77	5.11	36.54
Minimum	0.50	0.62	1.30	1.01	0.61	0.50	0.45	0.26	0.21	0.30	0.30	0.41	11.22
Mean ^b	3.03	3.27	3.81	2.98	1.99	1.42	1.32	1.13	0.84	0.80	1.10	1.93	23.62
Median ^b	2.76	3.11	3.28	2.73	1.76	1.26	1.11	0.96	0.69	0.70	0.84	1.68	23.61

b. For Period 1874-1964

Runoff in Cubic Feet Per Second, 1874 - 1970
(Unregulated)

1970	45,300	51,100	36,300	71,500	26,300	20,900	10,900	15,800	10,400	16,700	19,400	28,200	29,200
Maximum	174,800	147,800	178,500	136,400	98,000	72,000	72,300	79,400	51,500	58,900	72,400	94,800	57,600
Minimum	9,200	12,700	24,100	19,400	11,300	9,600	8,300	4,760	3,990	5,510	5,800	7,700	17,690
Mean ^b	56,200	66,600	70,700	57,200	36,900	27,200	24,500	21,000	16,100	14,800	21,100	35,800	37,200
Median ^b	51,200	63,400	60,900	52,400	32,700	24,200	20,600	17,800	13,200	13,000	16,100	31,200	37,200

b. For Period 1874-1964

RAINFALL AND RUNOFF FOR SELECTED WATERSHEDS

<u>Stream</u>	<u>Station</u>	<u>Drainage Area sq. mi.</u>	<u>January 1 - December 31, 1970</u>			<u>Runoff in Percent of Rainfall</u>	<u>Rainfall Minus Runoff inches</u>
			<u>Rain- fall inches</u>	<u>Depar- ture^a inches</u>	<u>Runoff inches</u>		
Big Sandy River	Bruceton	205	57.4	+6.0	18.2	31.7	39.2
Duck River	Hurricane Mills	2571	50.2	-0.6	20.4	40.6	29.8
Bear Creek	Bishop	667	52.2	-1.6	25.7	49.2	26.5
Elk River	Prospect	1784	51.2	-2.7	22.5	43.9	28.7
Paint Rock River	Woodville	320	50.5	-5.2	23.0	45.5	27.5
South Chickamauga Creek	Chickamauga	428	45.0	-8.5	14.8	32.9	30.2
Toccoa River	Dial	177	56.5	-8.9	32.4	57.3	24.1
Sewee Creek	Decatur	117	43.7	-8.6	15.9	36.4	27.8
Emory River	Oakdale	764	53.3	+0.8	24.3	45.6	29.0
Clinch River	Tazewell	1474	41.0	-4.0	16.9	41.2	24.1
Little Tennessee River	Needmore	436	54.7	-7.2	25.1	45.9	29.6
North Fork Holston River	Saltville	222	36.1	-5.1	12.6	34.9	23.5
Little Pigeon River	Sevierville	353	46.6	-7.6	15.6	33.5	31.0
French Broad River	Asheville	945	48.6	-9.7	22.2	45.7	26.4

a. Rainfall and runoff departures are referred to the 35-year period 1935-1969, except runoff departures for Paint Rock River, 1936-1969.

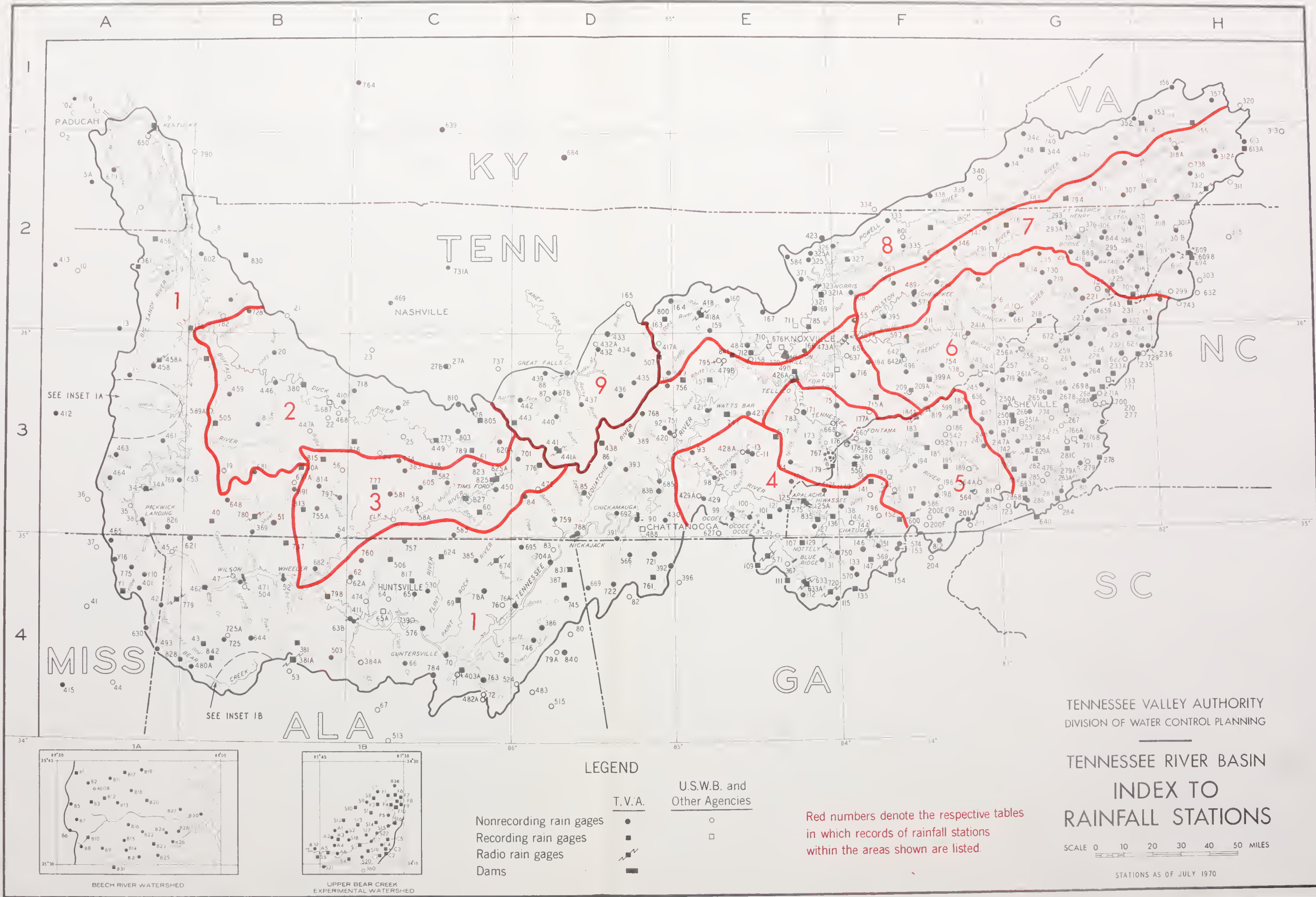
b. 0.05 inch or less.

Locations of watersheds are shown on map "Average Precipitation on Watershed Subdivisions." Runoff data are furnished by the U. S. Geological Survey and are tentative.

EVAPORATION DATA—YEAR 1970

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Evaporation (Inches)													
Murphy, N. C.	1.14	1.56a	2.53	4.06	5.85	5.65	5.87	4.57	3.69	2.74	1.74	1.48a	40.88a
Beetree Dam, N. C.	0.40	1.21a	2.64	4.42	5.27	4.85a	5.40	4.08	3.10a	1.85a	1.30a	0.91a	35.43a
Jefferson City, Tenn.	0.86a	1.82	2.76	4.50	6.09	5.57	6.61	5.22	4.30	2.72	1.39	1.26a	43.10a
Pulaski, Tenn.	0.84a	1.34	2.59	3.94a	6.28a	6.06	6.55a	5.48a	5.29a	3.22a	1.60a	1.67a	44.76a
Marion, Va.	----	----	----	4.55a	5.28a	6.28a	6.27a	5.35a	4.29a	3.24a	----	----	----
Precipitation (Inches)													
Murphy, N. C.	3.16	3.20	3.76	4.73	2.45	6.80	5.37	3.12	2.16	5.56	2.35	3.56	46.22
Beetree Dam, N. C.	1.96	2.65a	2.89	3.96	1.58	4.53	6.84	4.97	2.33	4.36	2.43	2.47	40.97
Jefferson City, Tenn.	3.36	3.04	3.05	6.39	2.82	2.49	1.78	5.74	2.64	3.26	1.85	3.57	39.99
Pulaski, Tenn.	1.46	3.83	5.16	8.98	5.55	5.36	4.54	1.35	3.89	7.22	1.91	4.31	53.56
Marion, Va.	2.49	2.17	1.79	5.76	1.46	2.09	2.77	4.49	3.10	1.94	2.46	2.83	33.35
Average Air Temperature (Degrees F)													
Murphy, N. C.	30	37	46	59	65	69	72	72	70	57	43	41	55
Beetree Dam, N. C.	27	35	43	54	62	66	70	69	67	56	44	41	53
Jefferson City, Tenn.	29	37	49	58	66	70	75	74	71	59	46	43	56
Pulaski, Tenn.	33	39	47	62	68	71	76	76	74	58	46	44	58
Marion, Va.	26	34	43	55	63	69	73	72	70	58	44	39	54
Average Water Temperature (Degrees F)													
Murphy, N. C.	35a	43a	53	62	73	78	80	82	78	63	47a	44a	62
Beetree Dam, N. C.	32a	39a	50	60	71	75	79	77	74	57	44a	41a	58
Jefferson City, Tenn.	34a	45a	58	63	73	78	81	81	79	63	47	44a	62
Pulaski, Tenn.	38	44a	53	64	74	78	81	84	79	62	50	47a	63
Marion, Va.	--	--	--	--	71	76	78	78	74	60	--	--	--
Average Relative Humidity (Percent)													
Murphy, N. C.	85	80	79	77	82	90	89	94	86	90	89	88	86
Beetree Dam, N. C.	88	83	84	81	87	95	93	97	96	91	91	87	89
Jefferson City, Tenn.	83	76	76	78	78	86	81	88	90	86	87	87	83
Pulaski, Tenn.	81	82	82	--	87	93	83	87	84	85	76	77	--
Marion, Va.	--	--	--	--	--	--	--	--	--	--	--	--	--
Average Wind Velocity (Miles Per Hour)													
Murphy, N. C.	0.97	1.09	1.10	0.93	0.52	0.35	0.33	0.21	0.26	0.53	----	----	----
Beetree Dam, N. C.	1.52	1.61	1.38	1.35	0.82	0.66	0.51	0.40	0.44	0.81	1.25	1.46	1.02
Jefferson City, Tenn.	1.27	1.53	1.46	1.45	0.93	1.08	1.09	0.77	0.73	0.74	1.02	1.28	1.11
Pulaski, Tenn.	----	1.31	1.38	1.39	1.02	0.94	0.69	0.55	0.78	0.90	1.42	1.50	----
Marion, Va.	2.06	2.32	2.36	2.07	1.15	1.09	1.07	0.88	0.79	1.36	1.64	2.08	1.57

a = Partly estimated



Figures in the "mean or normal" column in the following tabulation are determined as follows: For the U. S. Weather Bureau stations, the figures are normals based on the 30-year period 1931-1960, computed by the Weather Bureau. For TVA and other agency stations with 21 or more years of record through 1969, the figures are long-term means adjusted to the 35-year period 1935-1969. For stations with 5 to 20 years of record in 1969, the figures are running averages for the period of record. No means are listed for records of less than 5 complete years.

TABLE 1
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 1
TENNESSEE RIVER AND MINOR TRIBUTARIES
MOUTH TO KNOXVILLE

[illegible]

TABLE 2
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 2
DUCK RIVER

ANNUAL 1970 PRECIPITATION - In Inches

DIVISION OF WATER CONTROL PLANNING

Sta No.	Station Name and Location	Index Owner	Elev.	Yrs. of Record	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		YEAR	Depth of Snow (Inches)		
					Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l	Total	Nor.'l			Total	Nor.'l
OCC. RIVER-SUBDIVISION NO. 2																																
459	PLEASANTVILLE	8-3 TVA	525	31	1-15	6-05	4-40	5-10	5-85	5-68	5-75	4-79	2-55	4-42	7-10	4-12	2-45	3-82	3-12	3-91	3-45	2-79	5-10	2-13	2-20	4-43	3-40	4-84	46-72	52-08	4-0	
505	SUGAR HILL R	8-3 TVA	530	30	1-95	6-00	4-58	5-21	5-61	5-35	6-22	4-55	2-72	4-15	4-20	3-49	3-17	3-46	5-61	4-53	4-39	2-93	5-92	2-35	2-26	4-47	3-68	5-29	52-70	52-48	1-0	
15	HOHENALD	8-3 USWB	975	93	2-11	5-95	4-48	5-11	5-84	5-48	5-24	4-59	3-09	4-26	4-65	3-42	2-39	4-08	3-86	3-72	4-28	2-79	5-40	2-55	2-91	4-22	2-34	4-86	50-18	51-53	7-5	
19	MAYHEWDA	8-3 USWB	730	86	1-10	6-13	4-90	5-77	5-80	5-78	9-23	4-87	3-09	4-26	4-65	3-42	2-39	4-08	3-86	3-72	4-28	2-79	5-40	2-55	2-91	4-22	2-34	4-86	50-18	51-53	7-5	
728	MEER	8-2 TVA	805	18	1-31	4-60	4-47	4-76	5-01	5-30	7-27	5-20	2-27	4-20	4-39	4-37	1-50	4-16	7-54	3-75	2-15	2-69	7-10	2-29	1-75	3-80	4-90	4-50	58-91	55-20	4-0	
20	PINEGROVE	8-3 TVA	550	95	1-11	5-45	3-45	4-79	4-79	5-46	5-05	4-45	3-48	3-95	6-52	3-61	1-82	3-99	4-26	3-41	3-88	2-84	5-47	2-36	2-04	3-68	4-97	4-43	44-73	48-80	3-5	
21	ORCSON X	8-2 USWB	800	79	1-42	6-06	3-71	4-76	4-77	5-57	6-11	4-41	2-69	4-24	6-03	3-72	3-44	4-48	9-06	3-62	2-02	2-88	5-06	2-70	2-46	4-07	4-97	4-43	44-73	48-80	3-5	
340	SHADY GROVE R	8-3 TVA	496	31	1-33	5-94	3-84	5-08	4-63	5-30	6-20	4-73	2-79	4-03	6-61	3-74	1-98	4-25	4-68	3-42	2-80	4-20	6-75	2-09	2-32	4-19	4-20	4-63	45-73	50-77	5-3	
687	HOHENALD	8-3 MCGO	625	23	1-05	5-65	3-59	5-03	5-61	5-60	9-10	4-19	3-00	4-59	4-60	3-13	4-05	4-00	1-10	3-55	2-99	2-81	6-35	2-35	2-70	3-68	3-10	4-51	46-14	48-46	2-0	
718	COLUMBIA SUBSTA	8-3 USWB	625	99	1-10	5-79	4-09	5-30	5-08	5-68	12-30	4-35	4-12	4-17	8-08	3-60	3-33	4-39	2-79	3-57	4-90	3-49	7-84	2-70	3-10	3-84	3-41	4-76	62-14	52-04	6-5	
410	NEAPOLIS	8-3 TVA	720	19	1-65	4-82	4-38	5-15	4-03	5-33	9-70	5-12	4-75	4-33	6-49	3-33	3-66	4-45	2-65	3-41	1-77	2-03	6-71	2-39	2-21	3-79	3-10	4-65	57-64	49-83	3-5	
23	FRANKLIN	8-3 USWB	625	82	1-02	5-61	4-42	5-09	4-27	5-32	6-46	4-01	4-37	3-81	7-11	3-50	3-22	3-85	2-45	3-72	2-69	2-77	4-11	2-47	2-73	3-56	4-48	4-30	48-74	48-03	4-5	
816	CULEOKA R	8-3 TVA	675	4	1-31	5-45	4-44	5-09	4-27	5-32	6-46	4-01	4-37	3-81	7-11	3-50	3-22	3-85	2-45	3-72	2-69	2-77	4-11	2-47	2-73	3-56	4-48	4-30	48-74	48-03	4-5	
24	LEWISBURG, NEAR	8-3 USWB	767	77	1-59	5-78	3-56	5-91	4-87	5-69	7-96	4-38	5-59	3-72	4-58	3-57	2-87	4-48	2-11	3-05	2-81	3-34	5-61	2-63	1-97	4-12	3-59	4-70	47-51	51-37	2-5	
25	PALMETTO X	8-3 USWB	770	81	2-09	5-98	3-97	5-57	4-46	5-16	8-57	4-10	6-24	3-93	4-78	3-51	3-05	4-85	3-82	3-30	3-95	3-18	4-63	2-65	1-49	3-95	1-81	4-57	41-86	40-35	11-5	
26	CARROLL HILL	8-3 TVA	705	35	0-97	5-44	4-40	5-35	3-75	5-46	8-97	4-50	6-50	4-41	7-75	3-24	3-69	4-11	3-24	3-54	3-25	4-45	2-62	4-45	2-62	1-87	4-09	2-68	4-46	52-17	50-47	5-0
27A	MURFREESBORO X	8-3 USWB	608	99	1-06	5-40	4-81	5-37	3-23	5-30	8-51	3-97	6-25	3-87	8-79	3-04	2-13	4-18	4-82	3-66	4-13	3-20	4-93	2-39	2-37	3-99	4-49	4-38	54-37	48-75	8-9	
728	MURFREESBORO SUBSTA	8-3 TVA	560	31	1-08	5-47	3-20	5-19	3-06	5-43	8-33	4-39	5-04	4-26	9-01	3-37	2-87	4-20	2-82	3-57	4-33	3-16	3-00	2-28	2-15	4-07	3-32	4-47	50-31	49-86	6-8	
449B	SHEDDENVILLE, NEAR X	8-3 USWB	755	20	2-74	5-08	3-46	4-93	4-59	5-31	8-87	5-26	4-72	4-72	4-32	3-66	4-02	4-07	4-19	3-63	3-13	3-61	5-67	2-41	2-65	4-07	3-46	4-83	49-09	51-78	7-0	
803	MARTIN	8-3 TVA	815	4	1-56	3-54	3-48	4-54	3-98	5-31	9-46	4-01	3-79	4-72	4-32	3-66	4-02	4-07	4-19	3-63	3-13	3-61	5-67	2-41	2-65	4-07	3-46	4-83	49-09	51-78	7-0	
810	REELINGOOD	8-3 TVA	1000	4	1-40	3-54	3-48	4-54	3-98	5-31	9-46	4-01	3-79	4-72	4-32	3-66	4-02	4-07	4-19	3-63	3-13	3-61	5-67	2-41	2-65	4-07	3-46	4-83	49-09	51-78	7-0	
28	BEECH GROVE, NEAR	8-3 TVA	900	34	2-13	5-83	4-31	5-55	4-56	5-59	11-19	4-12	3-57	4-30	5-70	3-93	3-88	4-30	3-16	3-80	4-06	3-48	5-48	2-40	2-34	3-20	3-84	4-92	45-08	52-51	10-0	
605	NOAH R	8-3 TVA	900	4	2-70	3-92	3-63	3-64	4-23	4-75	10-08	4-16	2-36	4-30	5-70	3-93	3-88	4-30	3-16	3-80	4-06	3-48	5-48	2-40	2-34	3-20	3-84	4-92	45-08	52-51	10-0	
789	NORMANDY R	8-3 TVA	880	7	3-01	4-92	3-63	3-64	5-10	5-51	8-45	5-37	2-87	5-82	4-83	3-16	3-82	4-63	5-08	4-22	3-78	3-18	6-10	3-74	2-76	3-24	4-29	4-56	53-06	51-76	10-0	
820A	MANCHESTER	8-3 TVA	1052	21	2-99	4-92	3-80	5-28	4-75	5-53	9-02	5-21	1-72	4-52	5-55	3-69	4-74	5-26	4-36	3-20	4-88	3-93	6-83	2-62	2-28	3-94	4-81	5-34	55-73	53-24	10-0	

(DP) Digital punch

(P) Recorder at present

(H) Interpolated or partly interpolated

TABLE 3
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 3
ELK RIVER

ANNUAL 1970 PRECIPITATION - In Inches

TENNESSEE VALLEY AUTHORITY

DIVISION OF WATER CONTROL PLANNING

Sta. No.	Station Name and Location	Index Owner	Elev.	Yrs. of Record	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		YEAR	Depth of Snow (inches)			
					Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹	Total	Nor ¹			Total	Nor ¹	
ELK RIVER-SUBDIVISION NO. 3																																	
602	SHOEMAKER SPRINGS	R-4 TVA	740	23	2.95	5.80	3.32	5.61	6.03	5.93	6.10	4.47	5.46	4.33	5.99	3.97	1.94	5.46	3.31	3.13	3.01	3.70	2.78	2.60	2.29	4.39	4.35	5.14	46.43	54.43	6.2		
813	REVELL	R-3 TVA	905	4	1.47	4.02	4.02	5.82	6.21	6.21	9.74	9.74	5.08	5.08	4.18	5.41	3.24	2.78	5.15	2.53	3.46	3.58	6.70	2.48	2.53	4.19	5.20	5.35	54.63	54.58	4.5		
755A	SHORE	R-3 TVA	920	13	1.67	3.94	4.12	4.80	6.31	6.46	9.55	5.62	4.66	4.66	5.11	3.57	1.76	4.20	3.58	4.01	4.75	3.82	7.22	3.46	2.60	4.35	5.01	4.68	56.36	56.55	4.7		
797	PULASKI EVAPORATION STA	R-3 TVA	655	5	1.56	3.83	5.16	8.98	5.55	5.55	4.54	4.54	5.36	5.36	4.65	4.65	4.54	4.54	1.45	3.89	3.89	7.22	5.85	1.91	4.35	4.35	4.31	51.66	51.66	1.0			
814	WEAVER	R-3 TVA	710	4	2.22	4.39	4.39	4.39	5.57	5.57	4.92	4.92	4.92	4.92	4.65	4.65	2.36	2.36	1.28	1.28	5.63	5.63	2.76	4.35	4.35	5.01	5.01	5.01	51.66	51.66	4.2		
815	CAMPBELLVILLE-NEAR R	R-3 TVA	770	4	1.32	4.58	4.58	7.17	2.86	2.86	3.03	3.03	3.03	3.03	2.89	2.89	3.03	3.03	3.13	3.13	2.99	2.99	6.68	2.71	2.17	4.64	3.95	5.04	46.42	54.74	5.2		
56	LYNNVILLE-NEAR R	R-3 TVA	740	82	1.91	6.01	3.67	6.22	5.10	6.07	9.31	4.69	4.69	4.69	4.03	3.07	2.81	3.92	5.15	2.54	2.16	3.39	5.07	2.14	2.14	3.53	4.02	5.17	47.75	51.03			
57	COLUMBIAN R	C-3 USAR	626	75	2.44	6.11	3.51	5.80	5.89	5.97	10.00	4.38	4.38	4.38	3.36	3.34	4.59	4.54	2.96	2.96	2.96	4.14	6.22	2.96	2.96	4.14	6.22	5.14	55.43	54.10	3.5		
58	CLARK R	C-3 USAR	626	75	2.44	6.11	3.51	5.80	5.89	5.97	10.00	4.38	4.38	4.38	3.36	3.34	4.59	4.54	2.96	2.96	2.96	4.14	6.22	2.96	2.96	4.14	6.22	5.14	55.43	54.10	3.5		
59A	FAVETTEVILLE	C-3 TVA	700	19	2.48	4.73	2.98	4.93	5.91	5.99	8.42	4.25	4.25	4.25	2.88	2.71	3.68	3.82	2.66	3.13	2.85	3.95	5.95	2.92	2.75	4.23	5.35	5.35	47.25	53.98	5.5		
59B	FAVETTEVILLE	C-3 TVA	700	19	2.48	4.73	2.98	4.93	5.91	5.99	8.42	4.25	4.25	4.25	2.88	2.71	3.68	3.82	2.66	3.13	2.85	3.95	5.95	2.92	2.75	4.23	5.35	5.35	47.25	53.98	5.5		
605	BELEVILLE	C-3 TVA	755	26	2.80	6.07	3.58	6.02	4.75	5.74	8.43	4.65	4.65	4.65	3.76	3.72	3.67	5.60	3.42	3.10	2.73	3.41	5.49	2.66	2.43	4.22	4.22	4.22	48.69	51.49	6.9		
183	PETERSBURG	C-3 TVA	826	32	2.84	5.98	3.59	6.03	4.73	5.74	8.43	4.65	4.65	4.65	3.76	3.72	3.67	5.60	3.42	3.10	2.73	3.41	5.49	2.66	2.43	4.22	4.22	4.22	48.69	51.49	6.9		
774	DELAIST CURSTA	C-3 TVA	860	10	2.44	4.27	3.59	4.68	4.78	6.15	9.44	5.86	5.86	5.86	4.70	4.75	4.04	3.10	5.79	4.02	3.92	2.84	3.36	4.40	3.22	2.20	3.54	4.34	50.49	55.47	5.6		
582	LYNNHURST	C-3 TVA	780	29	3.53	6.13	3.17	5.72	5.66	5.93	10.93	4.52	4.52	4.52	4.72	3.77	3.47	3.47	3.47	3.45	2.44	2.44	6.26	2.46	2.27	2.27	3.54	4.34	45.02	55.50	5.5		
827	TIME FORD DAM A	C-3 TVA	970	35	2.71	5.23	3.60	4.96	5.39	5.49	10.14	4.43	4.43	4.43	3.98	3.85	4.09	3.13	4.92	3.48	3.51	2.17	3.57	5.21	2.44	1.90	3.97	5.24	4.63	49.40	51.09		
823	TULLAHOMA	C-3 TVA	765	3	3.15	3.03	3.03	4.89	1.04	1.04	9.30	9.30	9.30	9.30	3.45	3.45	2.57	2.57	5.84	5.84	3.10	3.10	3.83	3.83	2.45	2.45	4.77	4.77	47.97	47.97			
61	TULLAHOMA R	C-3 USAR	1065	64	2.61	6.02	3.64	5.87	5.25	5.73	8.70	4.44	4.44	4.44	2.16	3.76	4.09	3.24	5.07	3.80	3.45	3.44	3.36	5.40	2.61	2.70	4.10	4.77	5.48	50.72	53.72		
820	ESTILL SPRINGS	C-3 TVA	960	31	1.80	5.39	2.43	5.17	2.63	5.08	10.08	4.24	4.24	4.24	2.12	4.05	3.69	5.24	4.15	3.37	2.68	3.67	7.46	2.55	2.29	1.75	3.92	4.05	4.78	43.64	51.54	4.8	
825	ESTILL SPRINGS	C-3 TVA	975	3	2.03	3.17	3.17	3.17	5.45	5.45	9.08	9.08	9.08	9.08	3.69	3.32	3.69	5.24	4.15	3.37	2.68	3.67	7.46	2.55	2.29	1.75	3.92	4.05	4.78	43.64	51.54	4.8	
825A	ESTILL SPRINGS-RADIO	C-3 TVA	916	3	2.40	4.88	2.30	5.10	4.70	5.27	9.30	4.95	4.95	4.95	3.80	3.65	3.80	5.04	3.50	3.14	2.60	3.56	5.20	2.64	2.00	2.00	5.10	4.77	5.48	45.90	53.21	6.5	
701	HILLBARD	C-3 TVA	916	3	2.40	4.88	2.30	5.10	4.70	5.27	9.30	4.95	4.95	4.95	3.80	3.65	3.80	5.04	3.50	3.14	2.60	3.56	5.20	2.64	2.00	2.00	5.10	4.77	5.48	45.90	53.21	6.5	
776	ELKHART R	O-3 TVA	1082	10	2.77	4.08	4.03	4.55	5.14	6.26	9.61	5.24	5.24	5.24	5.79	4.75	3.82	5.78	5.12	3.86	4.91	3.19	4.91	6.83	2.99	1.93	3.54	4.25	5.31	51.39	51.39		
472	MONTICLO R	O-3 USAR	1920	31	3.63	6.47	3.86	6.31	5.92	6.73	10.67	5.32	5.32	5.32	3.35	4.39	3.60	4.31	3.39	5.42	6.54	4.15	3.52	3.75	5.99	2.93	2.50	4.62	5.78	6.17	60.95	60.57	13.7

Interpolated or partly interpolated (I) Recorder at present (R) Digital punch

TABLE 4
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 4
HIWASSEE RIVER

TABLE 5
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 5
LITTLE TENNESSEE RIVER

TABLE 6
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 6
FRENCH BROAD RIVER

TABLE 7
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 7
HOLSTON RIVER

TABLE 8
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 8
CLINCH RIVER



TABLE 9
PRECIPITATION
IN
WATERSHED SUBDIVISION NO. 9
CANEEY FORK ABOVE GREAT FALLS DAM

TABLE 10
PRECIPITATION
UNCLASSIFIED STATIONS

UNIVERSITY OF ILLINOIS-URBANA



3 0112 084230835